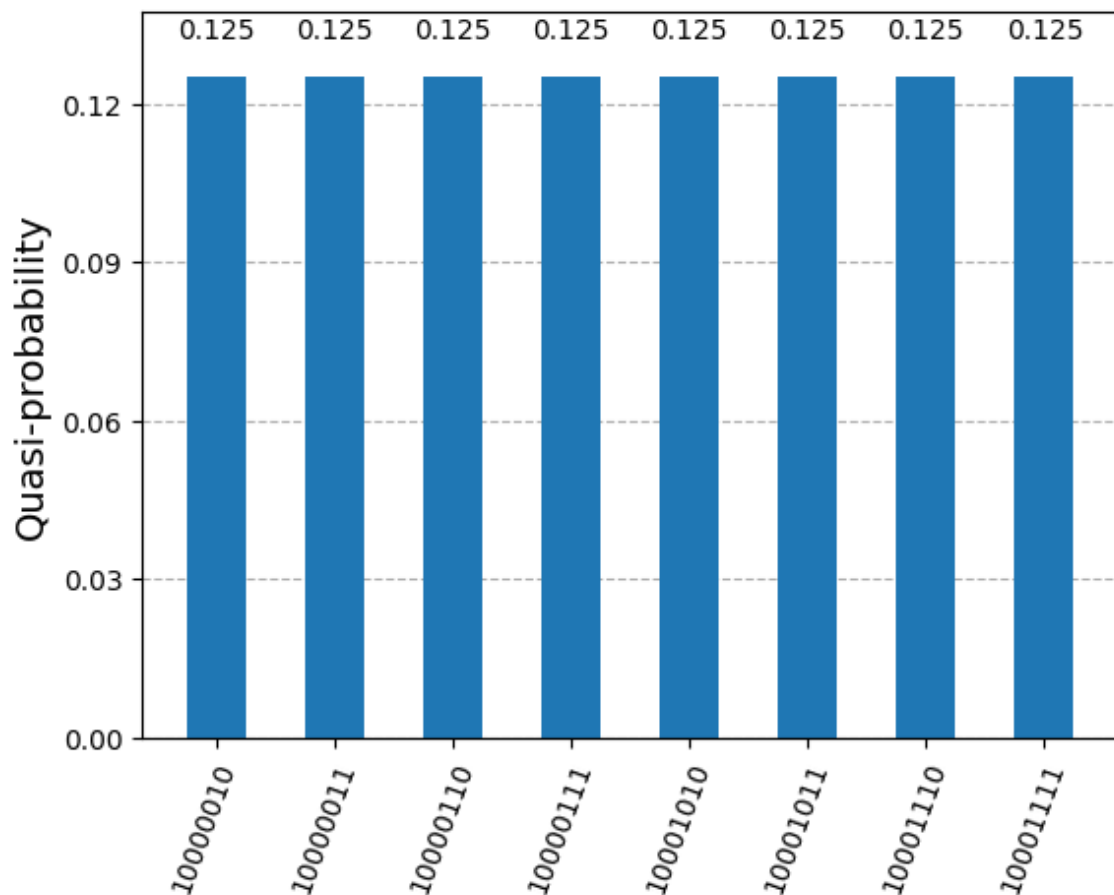
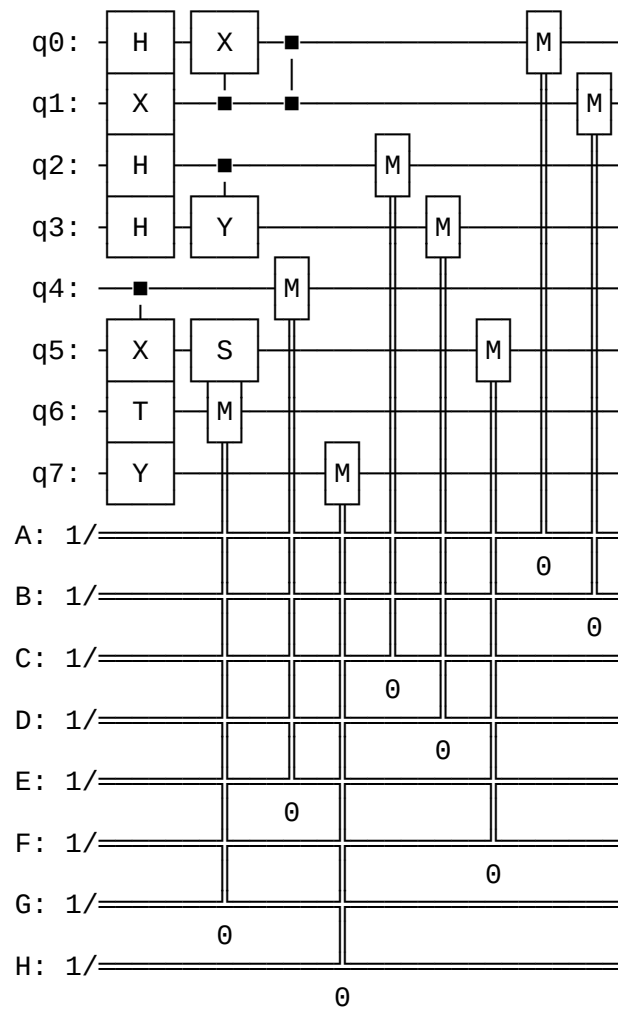


```
In [12]: 1 from qiskit import QuantumCircuit, QuantumRegister, ClassicalRegister
2 from qiskit.primitives import Sampler
3 from qiskit.visualization import plot_histogram
4 q0 = QuantumRegister(1, "q0")
5 q1 = QuantumRegister(1, "q1")
6 q2 = QuantumRegister(1, "q2")
7 q3 = QuantumRegister(1, "q3")
8 q4 = QuantumRegister(1, "q4")
9 q5 = QuantumRegister(1, "q5")
10 q6 = QuantumRegister(1, "q6")
11 q7 = QuantumRegister(1, "q7")
12 A = ClassicalRegister(1, "A")
13 B = ClassicalRegister(1, "B")
14 C = ClassicalRegister(1, "C")
15 D = ClassicalRegister(1, "D")
16 E = ClassicalRegister(1, "E")
17 F = ClassicalRegister(1, "F")
18 G = ClassicalRegister(1, "G")
19 H = ClassicalRegister(1, "H")
20 circuit = QuantumCircuit(q0, q1, q2, q3, q4, q5, q6, q7, A, B, C)
21 circuit.h(q0)
22 circuit.x(q1)
23 circuit.h(q2)
24 circuit.h(q3)
25 circuit.cx(q1, q0)
26 circuit.cz(q0, q1)
27 circuit.cy(q2, q3)
28 circuit.cx(q4, q5)
29 circuit.s(q5)
30 circuit.t(q6)
31 circuit.y(q7)
32 circuit.measure(q0, A)
33 circuit.measure(q1, B)
34 circuit.measure(q2, C)
35 circuit.measure(q3, D)
36 circuit.measure(q4, E)
37 circuit.measure(q5, F)
38 circuit.measure(q6, G)
39 circuit.measure(q7, H)
40 display(circuit.draw())
41 results = Sampler().run(circuit).result()
42 statistics = results.quasi_dists[0].binary_probabilities()
43 display(plot_histogram(statistics))
44
```



In []:

1